

What is claimed is:

1. A seat occupant identifying apparatus for a vehicle comprising:

- 5 a right and a left sensor each of which is responsive to a change in preselected physical quantity acting on a seat of a vehicle which arises from occupancy of the seat by a passenger to provide an output indicative thereof, the right sensor being disposed on a right side of a bottom surface of the seat, the left sensor being
- 10 disposed on a left side of the bottom surface of the seat; and
- a seat occupant identifying circuit working to identify whether the passenger on the seat is a first sized occupant of more than a specified physical size or not, when a total sensor output that is the sum of the outputs of said right and left sensors is greater
- 15 than a first seat occupant threshold value, said seat occupant identifying circuit determining the passenger on the seat as the first sized occupant, when the total sensor output decreases below the first seat occupant threshold value after the passenger is identified as the first sized occupant, and either one of the outputs of said right
- 20 and left sensors is smaller than a second seat occupant threshold value smaller than the first seat occupant threshold value, said seat occupant identifying circuit keeping determination that the passenger is identified as the first sized occupant.
- 25 2. A seat occupant identifying apparatus as set forth in claim 1, wherein said seat occupant identifying circuit identifies the

passenger on the seat as the first sized occupant when the total sensor output is kept greater than the first seat occupant threshold value for a preselected period of time.

5     3.     A seat occupant identifying apparatus as set forth in claim 1,  
wherein the second seat occupant threshold value is predetermined  
to a value selected within a range including the output of one of the  
right and left sensors subjected to a negative load, which is expected  
to arise when the first sized occupant on the seat experiences a  
10   lateral G-force and leans laterally during cornering of the vehicle.

4.     A seat occupant identifying apparatus as set forth in claim 1,  
further comprising a second right sensor and a second left sensor  
which are disposed on the right side and the left side of the bottom  
15   surface of the seat, respectively, and wherein the total sensor output  
also includes outputs of the second right and left sensors, when  
either one of a right total output that is the sum of the outputs of  
said right sensors and a left total output that is the sum of the  
outputs of the left sensors is smaller than the second seat occupant  
20   threshold value, said seat occupant identifying circuit keeping the  
determination that the passenger is identified as the first sized  
occupant.

5.     A seat occupant identifying apparatus as set forth in claim 1,  
25   wherein when the outputs of said right and left sensors both are  
kept greater than the second seat occupant threshold value for a

preselected period of time following decrease in the total sensor output below the first seat occupant threshold value, said seat occupant identifying circuit determines the passenger on the seat as a second sized occupant smaller in size than the first sized occupant.

6. A seat occupant identifying apparatus for a vehicle comprising:

a right and a left sensor each of which is responsive to a change in preselected physical quantity acting on a seat of a vehicle which arises from occupancy of the seat by a passenger to provide an output indicative thereof, the right sensor being disposed on a right side of a bottom surface of the seat, the left sensor being disposed on a left side of the bottom surface of the seat; and

a seat occupant identifying circuit working to identify whether the passenger on the seat is a first sized occupant of more than a specified physical size or not, when a total sensor output that is the sum of the outputs of said right and left sensors is greater than a first seat occupant threshold value, said seat occupant identifying circuit determining the passenger on the seat as the first sized occupant, when the total sensor output decreases below the first seat occupant threshold value after the passenger is identified as the first sized occupant, and an absolute value of a difference between the outputs of said right and left sensors is greater than a second seat occupant threshold value smaller than the first seat occupant threshold value, said seat occupant identifying circuit

keeping determination that the passenger is identified as the first sized occupant.

7. A seat occupant identifying apparatus as set forth in claim 6,  
5 wherein said seat occupant identifying circuit identifies the passenger on the seat as the first sized occupant when the total sensor output is kept greater than the first seat occupant threshold value for a preselected period of time.

10 8. A seat occupant identifying apparatus as set forth in claim 6, wherein the second seat occupant threshold value is predetermined to an absolute of a minimum possible difference between portions of a weight load of the passenger acting on the right and left sides of the seat, which is expected to arise when the first sized occupant on the  
15 seat experiences a lateral G-force and leans laterally during cornering of the vehicle.

9. A seat occupant identifying apparatus as set forth in claim 6, further comprising a second right sensor and a second left sensor  
20 which are disposed on the right side and the left side of the bottom surface of the seat, respectively, and wherein the total sensor output also includes outputs of the second right and left sensors, when either one of a right total output that is the sum of the outputs of said right sensors and a left total output that is the sum of the  
25 outputs of the left sensors is smaller than the second seat occupant threshold value, said seat occupant identifying circuit keeping the

determination that the passenger is identified as the first sized occupant.

10. A seat occupant identifying apparatus as set forth in claim 6,  
5 wherein when the absolute value of the difference between the  
outputs of said right and left sensors is kept greater than the second  
seat occupant threshold value for a preselected period of time  
following decrease in the total sensor output below the first seat  
occupant threshold value, said seat occupant identifying circuit  
10 determines the passenger on the seat as a second sized occupant  
smaller in size than the first sized occupant.